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U. S. DEPARTMENT OF AGRICULTURE,

Issued April 4, 1914.

BUREAU OF ANIMAL INDUSTRY,

A. D. MELVIN, CHIEF OF BUREAU

PROGRESS AND RESULTS OF CATTLE-TICK ERADICATION

It is generally well known that a vigorous cooperative campaign for the eradication of the cattle tick in the South and Southwest has been in progress since 1906, the work being conducted jointly by the Bureau of Animal Industry of the United States Department of Agriculture and the State and county authorities within the area quarantined for Texas fever. It is also well known that this particular tick, scientifically known as *Margaropus annulatus*, is the carrier of Texas fever, and transmits the disease to cattle, thereby causing enormous losses to the industry, and otherwise crippling it in numerous ways. About two years ago an effort was made to secure direct evidence from the cattlemen and farmers concerned as to the results of the work up to that time, and the replies received were for the most part highly appreciative of the work accomplished and of the benefits derived therefrom in those sections which had been cleared of ticks. A compilation of these replies was made and published as Bureau of Animal Industry Circular 196, entitled "Some Results of Cattle-tick Eradication."

A similar effort, but on a larger scale, has recently been made with the object of bringing the results up to date, and also of obtaining a more comprehensive view of the situation. For this purpose a circular letter embodying the following questions was widely distributed among the stockmen and farmers in 11 States in the territory bordering on the quarantine line. The questions asked were:

1. What has been the average increase per head in the value of cattle in your county since tick eradication began in 1906?
2. What, if any, has been the average per cent increase in the weight of the cattle since tick eradication began?
3. Express in percentage the average increase in grade or quality of the cattle since ticks were eradicated.
4. Approximately what per cent of cattle died annually of fever in your county before tick eradication began?
5. Is there more sentiment in favor of cattle raising in your county since the quarantine has been raised?
6. Has there been an increase in purebred bulls and herds since the ticks were eradicated?
7. What is the probable per cent of increase in milk production of dairy cows due to the absence of ticks?
8. Is a greater effort now made by cattle owners to provide more feed and silos or other facilities for caring for it?

Slightly over 1,000 replies were received in all, the number from each State being: Alabama, 25; Arkansas, 124; California, 39; Georgia, 17; Mississippi, 356; North Carolina, 37; Oklahoma, 145; South Carolina, 27; Tennessee, 171; Texas, 59; Virginia, 24. The following is a summary of these replies, taking each question in order.

#### 1. AVERAGE INCREASE IN VALUE OF CATTLE SINCE TICK ERADICATION BEGAN IN 1906.

Some replies expressed the increase in percentage, but the bulk of the schedules gave the increase in monetary value per head. Upon averaging these for each State, the sums varied from \$7.70 per head for Alabama to \$15 per head for California, and the weighted average for the 11 States is \$9.76 per head. The averages by States follow:

Alabama	\$7.70	Oklahoma	\$8.20
Arkansas	8.31	South Carolina	9.25
California	15.00	Tennessee	10.94
Georgia	8.00	Texas	13.79
Mississippi	9.00	Virginia	13.28
North Carolina	8.30	Eleven States	9.76

It must be admitted, of course, that all of this increase in value is not attributable to the tick work. We can, however, get a line on this matter by comparing the above advance with the normal increase which has taken place in the two remaining Southern States where little or no tick-eradication work is being done, namely, Florida and Louisiana. Thus, according to the estimates of the United States Department of Agriculture, published annually in the Yearbook, the average farm value of dairy cows in Florida has risen \$6 from January 1, 1907, to January 1, 1913, while the advance in "Other cattle" during this time was only \$1.20 a head. In Louisiana the increase in value of dairy cattle for the same period was \$5 and in "Other cattle" \$2 a head. There is, therefore, an immense advantage in favor of the tick-free territory and it is evident that a large portion of the gain in value in the cleared portions of the 11 States above mentioned may fairly be ascribed to the influence of tick work.

#### 2. INCREASE IN WEIGHT OF CATTLE.

The great majority of the replies stated there was a substantial increase in the weight of cattle subsequent to the clearing of the ticks. The averages for the States ranged from 11 per cent in Texas to 23 per cent in Mississippi and the average per cent of gain for the entire tick-free territory was 19.14. In other words, the cattle as a whole are considered to be about one-fifth heavier. All the schedules from Alabama and Mississippi declared an increase without excep-

tion. In the other nine States a few scattered individuals stated there was no increase in the weight. These negative replies numbered altogether but 5 per cent of the total schedules.

### 3. INCREASE IN QUALITY OF CATTLE.

The replies concerning the increase in the grade or quality of the cattle since tick eradication were considerably more flattering than those pertaining to the increase in weight. (Question 2.) The lowest State average was 16 per cent for Georgia, and the highest 31 per cent for Mississippi. The average for the 11 States was 26.91 per cent, which means that the cattle in the tick-free sections at present are rather over one-fourth better in grade or quality than they were under quarantine conditions. This is proof, if proof were needed, that the unprofitable "scrub" and the tick go together, and that when the latter is banished, and not until then, is the influx of purebred animals on a large and profitable scale possible.

As was the case with question 2, a few negative replies stated there was no betterment in quality. Out of a total of 939 replies there were 29 of these, or 3 per cent.

### 4. ANNUAL LOSSES BEFORE TICK ERADICATION.

There is practical unanimity in allowing that considerable losses were caused by Texas fever before the inauguration of the tick work. The figures range from 9 per cent in Georgia to 15 per cent in Mississippi and North Carolina, and the average for the 11 States is 13 per cent. This is a trifle over one-eighth of the total cattle.

It requires but little imagination to see what a serious handicap to the cattle industry of the South an annual loss of this magnitude must be. Some idea of its extent may be had by taking the census figures for cattle in 1910. According to these there were in round numbers 15,000,000 cattle below the Texas-fever quarantine line, with a valuation of slightly over \$270,000,000. One-eighth of this sum is \$34,000,000, which represents roughly the annual loss from deaths alone, not counting the depreciation in numerous other ways, such as stunted growth, discrimination in markets, shrinkage in milk production, etc., all of which will more than double the amount named.

### 5. INCREASE IN CATTLE INDUSTRY SINCE REMOVAL OF QUARANTINE.

As might be expected, the answer to this question, with few exceptions, is in the affirmative, there being 984 who answered "yes," against 29 to the contrary. It may be remarked, too, that some of the latter were expressed as "not yet," implying that not sufficient time has elapsed since the raising of the quarantine to warrant a more definite reply.

**6. INCREASE IN PUREBRED CATTLE.**

There were naturally rather more negatives to this question than to question 5, although on the whole the replies must be considered extremely satisfactory. There were 929 that answered "yes" and 61 "no," so that no less than 94 per cent of the schedules evidence an increase in improved blood. This is a healthy condition and will no doubt soon have a profound effect upon both the quantity and quality of the output. Some of the correspondents were exceedingly emphatic, one man in Alabama stating there were "five times as many," and another that "45 bulls had been imported into the county."

**7. INCREASE IN MILK PRODUCTION.**

The owners of dairy cows in the region cleared of ticks are evidently well satisfied with the results of the work, since 95 per cent of the replies admit there was an increase, usually very substantial, in the yield of milk. The lowest estimates are from Alabama and Georgia, these two States averaging 15 per cent increase in each, while the highest average, 25 per cent increase, is from North Carolina, closely followed, however, by 24 per cent each in Mississippi and Oklahoma. The average for the 11 States is 23 per cent, which is a gain of nearly one-fourth in the total yield.

It is easy to see what a great advantage this would be if it could be applied to all the ticky cows in the South. The additional milk would in the aggregate be worth many millions of dollars.

**8. INCREASE IN FEED CROPS AND SILO BUILDING.**

That the eradication of the tick has acted as a strong impetus to the cattle and dairy industries is clearly evidenced in the answers to this, the last question on the list. A general movement in the line of growing feed crops and building silos is indicated. The affirmative replies to this question numbered 984, or 98 per cent of all received.

**PERSONAL STATEMENTS.**

The following is an extract from a letter to the Washington office by Dr. Kiernan, Bureau of Animal Industry inspector in charge of tick-eradication work in Alabama, Mississippi, and Tennessee:

NASHVILLE, TENN., September 27, 1913.

CHIEF, BUREAU OF ANIMAL INDUSTRY,

Washington, D. C.

SIR: \* \* \* I had the extreme pleasure of attending the Tri-State Fair at Memphis, Tenn., this week, and was greatly pleased with the fine exhibits of cattle from territory that had been recently freed of ticks. There were Short-horns, Herefords, Angus, Red Polls, and Jerseys, all of which acquitted themselves with great credit in competition with herds from all over the United

States. The exhibition of these cattle means more than words can tell. It means that every county now in quarantine in the South can, in a measure, do what these exhibitors have done within a few years—develop a higher type of cattle. It is a shame that so few people can see what has been accomplished in the development of the cattle industry in the South.

\* \* \* Twenty millions more cattle for the Southern States is not an impossibility, and instead of an average value of \$15 these cattle can be made to be worth \$30 on the average. \* \* \*

Very respectfully,

J. A. KIERNAN, *Veterinary Inspector.*

The extracts below are taken from the New Orleans Times-Democrat of September 24, 1913:

#### STOCK RAISING IN THE SOUTH.

The American Meat Packers' convention, in session at Chicago, has sent out a plaintive appeal to the farmers of the country, and particularly those of the South, to save it and the nation from the meat famine that is threatening them. The prices of meat have gone steadily upward year after year, more than doubling in the past two decades, until the cow that jumped over the moon seems a very sober animal. The situation, say the packers—and the Agricultural Department supports them statistically—is alarming. There has been an actual reduction year after year in the number of cattle which are meant for the slaughterhouse, while the population has kept on growing at a rapid rate. The demand is now far in advance of the supply, and the difference grows steadily wider. Unless the farmers come to the relief of the market we will soon be facing a meat famine when only the rich will be able to buy a steak or roast. If the farmers—and particularly Southern farmers—give much attention to this branch of farming, say the packers, they will find that it is to their advantage to raise more corn and more stock and not concentrate themselves too much on cotton.

At present rates the business of raising a few steers on each farm should prove most profitable. The South has been backward in this industry, but has always hoped to go into it, and it can do so now under the most favorable conditions, as the cattle tick, causing Texas fever, the only thing that has stood in the way, is being rapidly got rid of. It is raising a great deal of corn, more than it has ever done before, and the splendid corn crop of Louisiana this year is a direct invitation to stock raising.

The following statements are selected from among the large number of cattlemen, dairymen, and farmers who filled out the schedules and added personal comments thereto:

#### ALABAMA.

There is as much difference between ticks and no ticks as there is between an up-to-date business man and an old fogey. In fact, if we had kept the ticks, we would have been knocked out in 10 years.—W. J. HENDLEY, Sumter County.

In my opinion nothing has done half as much to stimulate interest in raising purebred beef as has "tick eradication." Although the work has been carried on under a great handicap (due to an unfriendly feeling and fight against it by some), I think now the battle is about over, and that, due to this eradication work, I expect to see very soon the introduction of purebred bulls in this

vicinity and county. Personally, I've been using a dipping vat for two years; before building I lost cattle every year—since, I haven't had a single death. I'm very optimistic relative to cattle raising in northern Alabama and feel that this has been brought about by the use of the dipping vat.—FRANK P. HURT, Jackson County.

I do not see how anything that could be brought about that would have benefited our county as much as this work. I have not heard of the death of a cow from fever this year, except one not disinfected.—J. F. HAUSER, Jackson County.

#### ARKANSAS.

We had some trouble here at first, as many refused to dip cattle, but these were overcome and now the people are more than satisfied, and every farmer is trying to raise cattle. Our cattle are bringing now from  $3\frac{1}{2}$  to  $5\frac{1}{2}$  cents for range cattle, so you see where Mr. Farmer is satisfied.—P. T. HARRISON, Newton County.

I am an earnest and continuous advocate of tick eradication. It has been a signal and abiding benefit to all farmers in Carroll County, Ark. I have pastured cattle here continuously for 15 years. This year I have on grass 132 head, and there has been no deaths. I pasture and have pastured from the 15th of April each year until the 15th of December.—IVERSON A. JONES, Carroll County.

We consider the eradication work has been worth thousands of dollars to Baxter County. As our county is not very good for farming, we depend mostly on our cattle for a living, and we can't raise cattle and fever ticks in the same county with any success.—LONON BROS., Baxter County.

Since the eradication of ticks our cattle are bought more and at very much better prices, being smooth and in better condition. In my judgment the eradication of the tick has given us the advantage of no loss from fever, better temperament and dispositions and appearance of cattle, thus producing a greater flow of milk under same feeding. Silos are a very great subject with us now and enthusiasm prevails. I built the first one in the county and there are others contemplated next summer.—EDWARD C. BALLAMY, Fulton County.

#### CALIFORNIA.

My general opinion of the cattle industry as favored by active tick eradication and measures are, that by the active and intelligent management of our Federal and State authorities this matter has been so well handled and controlled that the people in that line of business have not only been able to continue, but to increase their output, principally by being able to bring other cattle on their ranches and by being able to use better quality of high-class bulls brought from other places. I am decidedly of the opinion that had not the tick eradication received the prompt and intelligent attention that it has that the cattle industry in both beef and milk in the counties south of San Francisco would have been reduced by this time to something like 50 per cent of its present monetary value.—W. MAYO NEWHALL, San Francisco.

The dipping process for the eradication of the cattle tick has been a godsend to this county. It means everything to the cattle raiser and dairymen of the coast section of the county, and no sane person conversant with conditions here will for one instant doubt the truth of this statement.—NEIL COOK, San Luis Obispo County.

I can only say in a general way that the eradication of the fever tick has been of the greatest benefit to southern California, not only in the increased gain on the stock and the absence from death, but it has enabled us to move our stock from one section of the country to another without loss, which it was impossible to do before. With the shortage in feed on the coast, the loss of stock would have been very great had conditions been such that we could not move them for feed. The quality of the stock is increasing.—PAMO DAIRY & STOCK CO. (By A. B. FOSTER, San Diego County.)

In regard to the eradication of cattle ticks, I wish to say there has not been anything that helped the cattle industry in this county like the good work that has been done in eradicating the tick. For years previous to 1906, the cattle business was a dangerous undertaking; in the fall of the year we could see dead cattle everywhere; now we very seldom see a dead animal. I lost nearly all my cattle in 1905, and I appreciate what has been done for us.—C. A. JESPERSEN, San Luis Obispo County.

Too much can not be said of the good that has been done in ridding the county of ticks. This caused the dairymen great inconvenience sometimes, but there is not one to-day who regrets the expense and trouble of clearing his herd of ticks.—DANTE E. DONATI, San Luis Obispo County.

I wish to say that if the dairymen of this county were educated to the use of the silo, it would be but a few years before it would be able to boast of being one of the leading coast counties in the production of butter fat, for the reason that the soil and climatic conditions are exceedingly good for the raising of corn. I have two silos at the present time and am the only dairyman in the county that I know of who feeds silage. I would not dairy without the silo.

In conclusion, I will say that the eradication of the cattle tick has been a great benefit to all owners of cattle, and also to consumers of beef and dairy products, and all those who were concerned in that great work are to be congratulated.—GEO. A. ERIOS, San Luis Obispo County.

#### GEORGIA.

In the year 1911 I had 65 cows. I lost 12 of the best I had by tick fever. In the year 1912 I built me a dipping vat, with the assistance of Dr. Lewis, and that year I had 125 head of cattle and began to dip them on the 19th of April, and did not lose a single cow after the first dipping. This year I had 187 head, and began to dip them on the 17th of April, and dipped them every three weeks, and have not lost a cow this year, and I am sure this tick eradication is the best thing for my county that has ever come to it.—A. E. McWHORTEN, Greene County.

Tick eradication and the dairy industry have progressed hand in hand here in Putnam County. It is generally conceded that our creamery (the only successful cooperative one in the State) is successful because of tick eradication.—C. B. LITTLE, Putnam County.

#### LOUISIANA.

I have a fine herd of cattle, and they are worth double the money they were before we got rid of the ticks. I am sorry our whole State is not in favor of this industry. Our back parishes have so many people who are not in favor of dipping cattle.—ALLEN E. HINDS, Madison Parish.

I may be an extremist in this matter, having been so badly infested with ticks when our work began. Have been free from ticks 4½ years, but our parish is not entirely free yet. The grade of cattle here is 100 per cent over what they would average before we began fighting the tick. This is partly due to better blood. Am sure the quality of milk and butter and also beef is 100 per cent above what it was before we began the fight.—M. E. RUPLE, Claiborne Parish.

#### MISSISSIPPI.

To show you an instance of what tick eradication has done for us; on yesterday I sold to a feeder from Kentucky a carload of feeders (Angus grades) for \$6 per hundredweight weighed up on my own farm; this is the highest priced load of this class of cattle that I have ever known to be sold in the State.—J. M. ALDRICH, Benton County.

Cattle are very much increased in valuation, and we can attribute this directly to the dipping. Beef products, as well as dairy, are all reaching a high point in all the markets. I would say, further, that being in a position to look over the situation as it really stands that it has affected the price of our lands to the amount of not less than \$5 or \$10 per acre. Everybody seems to be talking live stock. Some 40 or 50 silos, most of them having 300-ton capacity, have been built in the meantime and a number of herds of nice purebred beef cattle are now being grown and raised in our county. All of this means good roads, good schools, higher grade of citizenship, and a general elevation of all lines of life.—J. R. EVANS, Noxubee County.

I have been in the cattle business myself in this county for 20 years, and I regard the eradication of ticks as a great benefit to the cattle growers in Mississippi. I am shipping my cattle now to East St. Louis, and they go into the free pens. They bring from 50 to 75 cents per hundred more than they would in the quarantine pens.—J. E. EDENS, Chickasaw County.

In February, 1913, I began constructing vats in district 2 of Copiah County with fully 90 per cent of people against them. After building 21 vats in said district, and dipping regularly every two weeks 4,000 or 5,000 head of cattle, fully 90 per cent are in favor of dipping, and want the law enforced so as to eradicate the tick entirely.—S. F. LUSK, Copiah County.

Personally, I think the eradication of the cattle tick one of the greatest things the Government has undertaken since it did away with the yellow-fever mosquito. The boll weevil has done the cotton growers so much damage in this county this time till we are forced to look to the raising of cattle. With the tick this would be a failure, so I think the eradication of the tick inestimable for the future salvation of this country.—REISE SAUELL, Newton County.

I consider that the tick-eradication campaign being made in this and adjoining counties is the best work that the Government has ever done for Mississippi. Dr. Vaughn and his assistants are doing very thorough work in this (Jasper) county, and I am sure that by the time the summer is ended the venomous cattle tick will be no more. Quite a number of stock farms are being started in this section and thoroughbred bulls are being introduced. We expect to show you some things in the next five years not before on the map in southern Mississippi. Let the good work go on.—L. L. DENSON, Jasper County.

I am glad to cooperate with you in the matter of tick eradication. I regard tick eradication as the greatest boon to Lafayette County during my lifetime of residence and experience here. The cattle industry, in my judgment, is sure to usurp the place with us held by cotton hitherto. Best wishes for success.—J. B. ANDERSON, Lafayette County.

I think the eradication of ticks is the greatest thing the Government has ever done for the farmers. I lost 90 head out of a herd of 125 head in 1904 from tick fever. I did not know what was the matter until 1906.—G. W. BUSH, Lowndes County.

The only thing we need is to have our laws made more stringent in regard to dipping.—CHAS. W. EVANS, Lowndes County.

#### NORTH CAROLINA.

It gives me great pleasure to add my testimony to the great value of the tick-eradication work and the improvement of the cattle industry since its inauguration. The quality of our cattle is better and especially have pure-bred males been introduced to a rather large extent. We are looking forward with confidence to the complete extermination of the cattle tick, and the finishing of this undertaking will certainly be one of the greatest epochs in the agriculture of the State.—B. W. KILGORE, Director North Carolina Experiment Station.

This county is still under quarantine. Work was only begun here last fall, so I can't give a full report. It has been worth \$5 per head to me to be rid of ticks this year. I have lost yearly about \$200 on my cattle on account of ticks.—D. W. S. SMITH, Scotland County.

In answering above inquiries it affords me much pleasure to say that a great wave of modern methods of cattle raising and the provision of pastures and feeds for them is now sweeping this country. We are trying to keep the horse before the cart by providing good pastures first. Great is the progress along this line. The increase in the seeding of land to clover and grasses since the lifting of quarantine is at least 500 per cent and by leaps and bounds the good work goes on.—S. A. UNDERWOOD, Stanly County.

Prior to 1911, I lost from 10 to 40 cattle annually out of a herd of 100; since I have been free of the tick I haven't lost one from any disease. Think you are doing a great work and most heartily indorse the move.—JACK N. JOHNSTON, Warren County.

I think a county that is infested with the cattle tick will do well to make an effort to eradicate them. When the tick question was raised in this county some men said there would be ticks here as long as there were rabbits. We have rabbits yet, but the cattle ticks are eradicated. I was under quarantine for 12 months. I used 1 gallon of what they called tick oil in a strong soap-suds once a week. I thoroughly wet the cows in this solution and in less than 12 months I saw no sign of ticks. I have seen no sign of ticks from that time to this.—JOHN M. MORTON, Stanly County.

#### OKLAHOMA.

The eradication of the tick in our county was the most beneficial of anything that has been done. It not only protects our cattle from disease but we get much better prices. The Texas fever is a thing of the past in Caddo County.—S. M. WAMSLEY, Caddo County.

There were pastures here before the tick eradication where the cattle practically all died. There is one pasture right here in 1901 that all the cattle died except two and they were sucking calves. We cleaned up the pasture and have never lost any cattle since.—G. E. BURKETT, Lincoln County.

I think it is one of the greatest things ever done for our county when the ticks were cleaned out of it. When it was first advocated I fought it, but now I am for it stronger than I fought it, and I will say to anyone and tell the truth I lost 20 per cent of my cattle every season with the fever and now I don't lose any. I hope this good work will still go on.—M. B. SPARLIN, Ottawa County.

It cost me about \$2,000 before I fully learned that ticks killed cattle.—H. F. CAULK, Caddo County.

I have just shipped in one car of purebred cows, and I have two neighbors that have shipped in a car each. Before tick eradication we could not handle this class of cattle, as they would die with the fever.—WM. HOWELL, Ottawa County.

#### SOUTH CAROLINA.

Tick eradication has put new life into cattle raising in our county. If we could only get like cooperation in the stamping out of hog cholera, our people will then turn to hog raising.—J. A. WOODLEY, Marlboro County.

Have watched the cattle proposition since the eradication of the tick, and everybody gives it praise. Have particularly noticed the better grade of cattle; also have never heard of or seen a tick since the work was done. I hope the good work will continue for the South.—S. P. CLARK, Spartanburg County.

I lost \$400 or \$500 from the ticks myself before I knew what it was. Lost some of the best milk cows I ever owned. The money spent for tick eradication is money well spent. Best thing the Government has done for this section. Cattle that sold here for 3 to 4 cents on foot now sell from 4 to 5½ cents right here on my farm. I used all my influence in assisting your men here in their work. I thank you for what you did for me. I hope you will continue the work.—A. W. RODGERS, Greenwood County.

#### TENNESSEE.

The general condition of cattle since the Texas tick was exterminated in this county has been much improved, the market improvement being one of the greatest advantages that has come to us since. Our cattle are doing better in every way, and while there was but a small loss of cattle from the tick there were some, and many poor cattle from the infection; we are more than pleased with the work, and it has brought thousands of dollars each year to this county that otherwise would have been lost.—GEO. P. LINDSLEY, County Judge Roane County.

Lawrence County has certainly reaped a great benefit because of the tick eradication. About 10 years ago I went out in my pasture and found dead 15 or 20 head of 2-year-old steers, and I think I lost as many as 75 out of the 150 that I had at that time. Since the tick eradication began in this county I have never lost a cow. I have now on the farm 325 head, and I do not believe there is a tick of any description on the lot. Our county is especially adapted to the growth of Red and Japan clover, and within the next few years we will have one of the leading stock counties in the State. I certainly appreciate your great interest in this tick eradication.—J. H. STRIBLING, Lawrence County.

We have already started a herd of beef cattle. With regard to silos, can only say that the man who built ours last May has put up 10 others since then, and can not fill his orders fast enough. There has not been a tick seen on this place in two years, whereas they about owned it until we went after them hammer and tongs.—C. E. BUCKLE, Fayette County.

Everyone is more interested in cattle raising in this county now, and all farmers are wanting purebred bulls. I think a carload of registered cattle could be sold here now for breeding purposes. Everyone wants to get rid of the scrub cattle and raise purebred. Since we began tick eradication I have started a nice herd of thoroughbred Herefords. I paid, in April, \$125 for a registered Hereford bull calf 9 months old. Five years ago I would not have paid the freight on him.—AL JOHNSON, Decatur County.

I think tick eradication is the greatest boon to cattle raisers in existence. I usually lost from 6 to 10 head out of each 100 before tick eradication, but have not lost a single one since I began dipping.—G. W. EATON, Wayne County.

The eradication of ticks in Polk County, Tenn., has done more for the farmers than anything that has been done. You can't raise cattle and ticks together.—B. E. BIGGS, Polk County.

I think the eradication of ticks is the best work the Government ever did for the farmer. I lost more or less every year; since the tick has been eradicated have not lost one.—W. L. HALL, James County.

I want to state that I was opposed to the enforcement of the quarantine law at the start, but am in favor of it at present.—A. F. HAZLEGROVE, Hardeman County.

No one thing that was ever done has helped farmers and cattle raisers in this county so much as tick eradication. Before, we had no purebreds, and now we have several purebred bulls and herds. Several of our cattle raisers will be at the State fair for the express purpose of buying purebreds. Small cattle of good grade are worth as much again since the tick eradication.—JOHN W. BROWN, Marion County.

#### TEXAS.

I am well pleased with the progress we have made in tick eradication and feel assured that our business has greatly benefited with the effort. We have never injured or lost any cattle in dipping, and our cattle have thrived as well, or better, than they ever did before, and this year we have received a splendid calf crop.—LOUIS L. FARR, Tom Green County.

I am an avowed enemy to the cattle tick and strong friend to the eradication move. Hope in the near future the pest will be driven into the sea.—R. B. MASTERSON, King County.

I figure that two men by bringing in ticky cattle have cost the cattlemen in this county alone \$75,000 to \$100,000. One man lost about 50 out of 100 head, and several others lost heavily.—P. L. ANDERSON, Stonewall County.

I will say eradicating this county of the tick has been worth more than could be estimated. I myself shared greatly in the losses. As we are about clean of the tick now all of our pasture land is in use, grass and cattle are worth more money, and pasture land has also increased in value.—J. J. SUMMERS, Hardeman County.

To whom this may concern: This is to certify there never has been anything worth as much to a county as the eradication of ticks has been to this county; far more than anybody could expect.—J. J. MITCHELL, King County.

The eradication of the tick has been of untold value to the stockmen of this section.—A. P. OLIVER, Stonewall County.

#### VIRGINIA.

I am satisfied that the eradication of ticks has greatly stimulated the raising of cattle in my county. In times past a number of cattle died annually from fever, but in the last few years the loss on this account has been very little. In former years it was very dangerous to bring cattle to this county from other sections of the State, but since the ticks have been eradicated I have heard no complaint along this line.—R. TURNBULL, Brunswick County.

Prior to tick eradication it was almost certain death to import any good stock cattle. We knew the fever killed them, but did not know the cause. Since this county has been freed from ticks I know of 4 dairies which have been established in it now milking well over 20 cows each, besides several milking from 4 to 12 cows, all of whom are improving their herds by the use of purebred bulls.—THEO. WHATELEY, Campbell County.

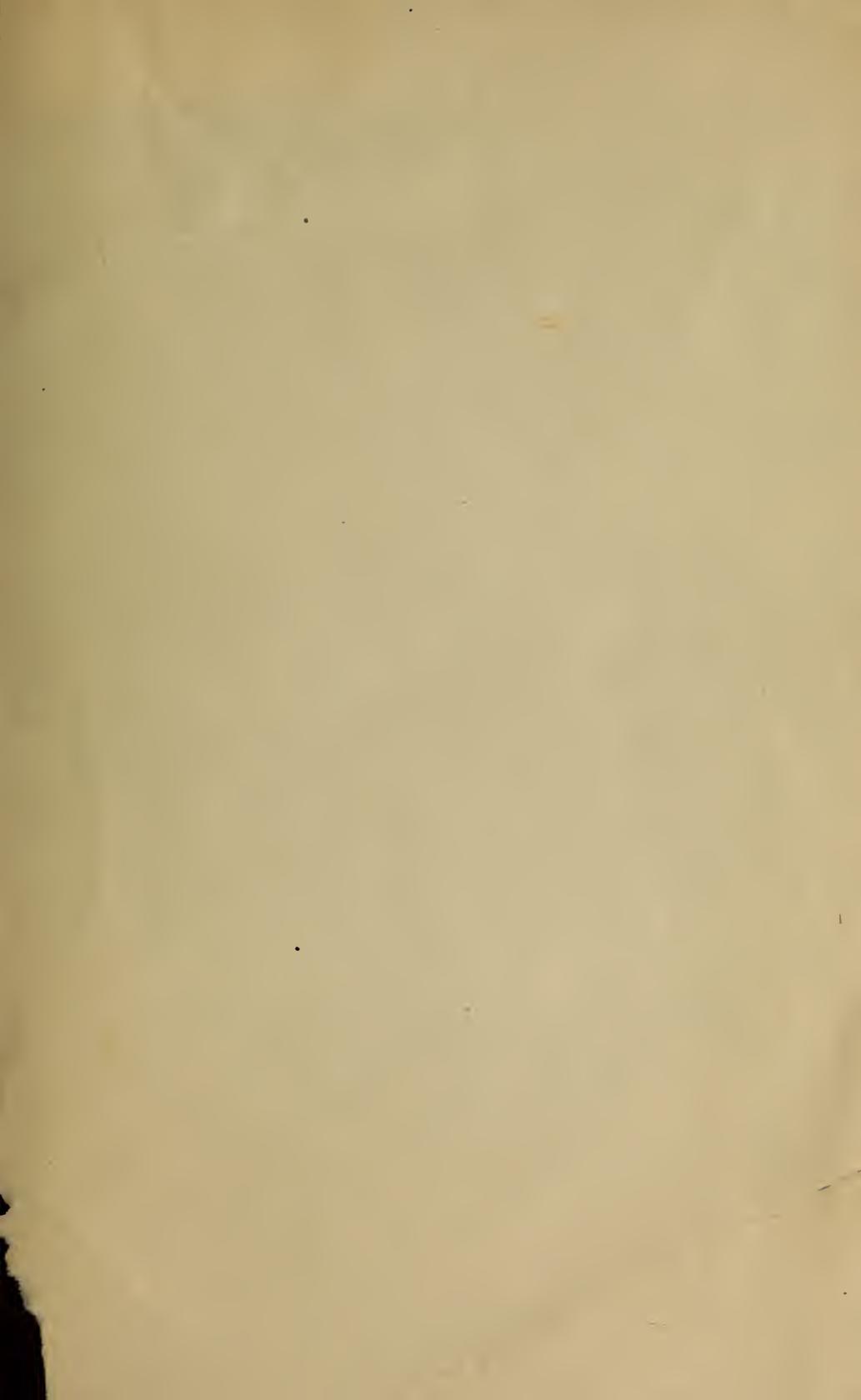
We had scarcely no ticks in my county, but all of the adjoining counties were infested, and we were also quarantined, and for this reason I could not make sales of cattle to go out except for a few weeks in the year. Since the county has been freed from this trouble I have made great progress in my business of breeding registered Jersey cattle. Had the tick remained I could not have continued in this business. While I used to sell cattle for \$40 to \$60 each, I now seldom make a sale for less than \$100 each. Since January 1, 1913, I have sold 15 head for an average of \$135. Half of these were young bulls and bull calves.—W. B. GATES, Prince Edward County.

The tick eradication has certainly done great good; there are few deaths now. It was certainly of great benefit, but the people of this section have never considered the stock question as they should and have not benefited as much as they might if they could be brought to realize the value stock would be to their farms. However, nearly all well-informed people here have come to believe tick eradication is a fine thing.—ROBERT TANNER, Lunenburg County.









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